



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Sir:

This statement represents that the prior art listed herein includes, in the opinion of the applicant, the closest prior art of which the applicant is aware. The patents enclosed in this report are listed as follows:

<u>PATENT NO.</u>	<u>PATENTEE</u>	<u>ISSUE DATE</u>
2,109,821	Dunica	3/1/38
2,431,698	Lombard	12/2/47
3,194,529	Brock	7/13/65
3,547,391	Johnson	12/15/70
3,603,550	Byrd	9/7/71
3,737,133	Boecker	6/5/73
3,765,635	Burrell et al	10/16/73
3,780,972	Brodersen	12/25/73
3,823,907	Ziaylek, Jr.	7/16/74
3,921,950	Sentinella	11/25/75
Des.244,392	Montambo	5/17/77
4,023,761	Molis	5/17/77
Des.245,929	Montambo	9/27/77
4,213,592	Lingenfelser	7/22/80

4,304,383	Huston	12/8/81
Des.267,227	Ziaylek, Jr.	12/14/82
4,555,083	Carter	11/26/85
4,586,687	Ziaylek, Jr.	5/6/86
4,821,990	Porter et al	4/18/89
4,979,659	Boyd	12/25/90
5,025,935	Hadachek	6/25/91
5,318,266	Liu	6/7/94
Des.347,735	Ziaylek, Jr. et al	6/14/94
5,522,530	Boettcher	6/4/96
5,533,701	Trank	7/9/96
5,354,029	Ziaylek, Jr. et al	10/11/94
Des.394,381	Ziaylek, Jr. et al	5/19/98
6,124,796	Hincher	9/26/00
6,220,557	Ziaylek et al	4/24/01
6,318,568	McCord	11/20/01
6,520,123	Parker et al	2/18/03
6,543,736	Field	4/8/03

#### Foreign Patents

EP0272494 B1	Gerhard	3/27/91
EP0284884 B1	Gerhard	11/13/91
EP0312285 B1	Fossey	4/3/91
EP0334265 A1	Gerhard	
EP0629391 B1	Locarno	8/27/97
EP0903162 A2	Lewis et al	
JP11105704 A	Shigeyoshi	
JP11314583 A	Kazuaki	
JP2001158344 A	Koutarou et al	

United States Patent No. 2,109,821 discloses a "Fire Extinguisher Holder" patented March 1, 1938 to R. W. Dunica. The '821 patent discloses a holder having a base with uprights carried on the base and clamping means connected to the uprights. The clamping means extend in a semi-circular main section fixed at ends to the uprights to be located on one side thereof. A pair of supplementary sections are hingedly connected to the uprights to be located on the opposite side thereof. These supplementary clamping sections have the corresponding free ends releasably joined together. One free end is bifurcated and

terminates in eyes carrying a pivot pin. A lever is included having a head pivotally attached intermediate its ends to the pin with a toe portion thereof movable between the furcations. The corresponding free end of the other supplementary section is formed into a tang extending between and beyond the furcations and terminating in a hook releasably engaging the toe portion of the head. This reference patent is distinguishable from the present invention as claimed since the present claims define an improved quick release mechanical bracket for detachably securing a tank thereto including a frame with upper and lower flanges as well as two driveshaft means rotatably mounted within the upper and lower flanges rotatably and extending generally parallel on opposite sides of the tank gripping area. At least one tank clamping means is included secured to the first and second driveshaft which is adapted to secure a tank in place relative to the frame or release such a tank. The tank mechanism includes a first clamping arm and a second clamping arm movable together away from the tank or toward the tank positioned therebetween. Also a first and second guide boss are included which are both fixedly secured with respect to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the first driveshaft. Each guide boss defines a profiled guide surface at least partially encircling the adjacent driveshaft and positioned thereadjacent to prevent any lateral deflection thereof. An interengagement mechanism is also included operatively secured for powering movement of the

tank clamping device between the closed position securing a tank and the opened position to facilitate release thereof. This construction is not shown or suggested in the above-identified reference patent and for this reason the present invention is deemed to be patentably distinguishable thereover.

United States Patent No. 2,431,698 discloses a "Removable Mounting Installation" patented December 2, 1947 to H. Lombard. The '698 patent described a mounting assembly including cooperating resiliently connected bracket and support members. The bracket includes a body having opposed inwardly extending flanges defining an enclosure for the support. It includes a pair of spaced flange sections. The support includes a base receivable inside and underneath the inwardly extending flanges on the bracket and a projection which passes through the space between the spaced flange sections to facilitate assembly of the structure with the bracket member. A quick release mechanical bracket is disclosed in the present invention which is a distinct improvement over the prior art devices and, in particular, a distinct improvement over the above described patent. The configuration for the bracket of the present invention includes a frame with an upper flange extending outwardly therefrom and a lower flange extending outwardly therefrom at a position spatially disposed below the upper flange for the purpose of defining a tank holding zone therebetween. A first driveshaft means is rotatably mounted relative to the flange and a second driveshaft means is spaced laterally from the first driveshaft

means and extends generally parallel perpendicularly with respect thereto both of which are rotatably mounted within the upper and lower flanges. A tank clamping device is secured to the first driveshaft and the second driveshaft and is movable therewith between a closed position retaining a tank in the tank holding zone and an opened position releasing the tank to allow removal thereof from the tank holding zone. Each of the tank clamping devices include a first clamping arm secured to the first driveshaft and a second clamping arm secured to the second driveshaft both being rotatably movable between the closed position for retaining the tank in place and an open position for releasing of the tank. A first guide boss is included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween and adjacent to the first driveshaft. This first guide boss includes a first profiled guide surface at least partially encircling the first driveshaft and positioned thereadjacent to prevent lateral deflection thereof. Similarly a second guide boss device is included fixedly secured to the frame below the upper flange and above the lower frame at a position intermediate therebetween adjacent the second driveshaft. This second guide boss defines a second profiled guide surface at least partially encircling the second driveshaft and positioned thereadjacent to prevent lateral deflection thereof. An interengagement means is also included operatively connected to the first and second driveshafts for urging simultaneous rotation thereof between the closed position

holding the tank and the opened position allowing release of the tank from the tank holding zone. The above patent does not teach or in any other way illustrate the novel aspects of the present invention for minimizing deflection of rotatable and vertically extending members in a tank holding bracket configuration and, as such, the present invention as claimed is deemed to be patentably distinguishable over therefrom.

United States Patent No. 3,194,529 discloses a "Bracket For Holding Fire Extinguishers" patented July 13, 1965 to G. R. Brock and assigned to Sterling Precision Corporation. The bracket disclosed in the '529 patent is designed particularly for supporting of a fire extinguisher. It includes a pair of laterally spaced parallel metal members which are fastened to a support surface. A first metal cross support forms the sole connection between one pair of extremities of the members and is formed to support one end of the extinguisher. A second metal cross support forms the sole connection between the other pair of extremities of the members and has arms extending part way around the corresponding end of the fire extinguisher. Means are included for releasably holding the corresponding end of the fire extinguisher between the arms. An integral extension is included in this structure at the outboard end of each of the arms extending generally parallel relative to the major axis of the extinguisher. A spring metal clip has one end formed into a knuckle pivotally embracing one of the extensions and having its opposite end formed into a U-shaped catch engaging the side. The

clip yieldably embraces the extinguisher in order to hold it against at least one of the arms of the second metal support. This patent does indeed contain a disclosure relevant and specifically pertinent to the present invention. However, the present invention provides an improved construction for a quick release mechanical bracket not shown in any manner in the above patent reference. The bracket of the present invention includes a frame extending vertically with an upper flange extending outwardly therefrom and a lower flange extending outwardly therefrom at a position spatially disposed below the upper flange in such a manner as to define a tank holding zone therebetween. The mechanical bracket further includes a first driveshaft rotatably mounted within the upper flange and rotatably mounted within the lower flange and extending therebetween. Also included is a second driveshaft rotatably mounted within the upper flange at a position laterally spatially disposed from the first driveshaft. This second driveshaft is rotatably mounted within the lower flange at a position spatially disposed laterally from the first driveshaft. The second driveshaft extends vertically between the upper flange and the lower flange at a position laterally displaced from the first driveshaft. The second driveshaft and the first driveshaft extend vertically approximately parallel with respect to one another to define a tank holding zone therebetween below the upper flange and above the lower flange. A tank clamping device is included movable between a closed position for holding the tank and an open

position for releasing of the tank. At least one of said tank clamping devices is included within each bracket construction but as many as two, three or even more such clamping mechanisms can be included. Each of these clamping mechanisms however will include a first clamping arm secured to the first driveshaft to be rotatably movable therewith between the closed position in abutment with the tank and an open position. A second clamping arm will be similarly included. They both will be capable of retaining the tank in the holding zone by moving together and by releasing of the tank from the holding zone by being moved to the opened position together. A first guide boss is also included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the first driveshaft. This first guide boss defines a first profiled guide surface at least partially encircling the first driveshaft and positioned thereadjacent to prevent lateral deflection thereof. With a similar construction a second guide boss is included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the second driveshaft. This second guide boss will define a second profile guide surface at least partially encircling the second driveshaft and positioned thereadjacent to prevent lateral deflection thereof. An interengagement means is further included operatively attached with respect to the first and second driveshafts for urging rotatable movement thereof simultaneously. This interengagement means is operative to



rotate the first driveshaft means counterclockwise and the second driveshaft means clockwise simultaneously to move the first clamping arm means and the second clamping arm means toward the closed position for retaining of a tank within the tank holding zone. The interengagement device is operative to rotate the first driveshaft clockwise and the second driveshaft counterclockwise simultaneously to move the first clamping arm means and the second clamping arm means toward the opened position for releasing of the tank from within the tank holding zone. In view of the distinctive improvements set forth in the claims of the present invention over the prior art and, in particular, in relation to the above-identified patent, the present invention as claimed is not deemed to be anticipated nor rendered obvious by the specification and/or claims of the above described reference.

United States Patent No. 3,547,391 discloses a "Quick Release Support For Rescue Breathing Apparatus" patented to D. E. Johnson on December 15, 1970. The quick release support shown in the '391 patent includes means for attaching the support to a supporting surface and at least one pair of arms and means for pivotally attaching the arms to the support. Means are included for selectively locking the arms in a first position in engagement with the opposite sides of the tank and unlocking the arms to a second position wherein the arms are free to move relative to each other for releasing the tank. The locking and unlocking means includes a lug connected to each arm with a

locking means and a lever operatively connected to the locking and unlocking means and extending laterally outwardly therefrom. This reference patent is distinguishable from the present invention as claimed since the present claims define an improved quick release mechanical bracket for detachably securing a tank thereto including a frame with upper and lower flanges as well as two driveshaft means rotatably mounted within the upper and lower flanges rotatably and extending generally parallel on opposite sides of the tank gripping area. At least one tank clamping means is included secured to the first and second driveshaft which is adapted to secure a tank in place relative to the frame or release such a tank. The tank mechanism includes a first clamping arm and a second clamping arm movable together away from the tank or toward the tank positioned therebetween. Also a first and second guide boss are included which are both fixedly secured with respect to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the first driveshaft. Each guide boss defines a profiled guide surface at least partially encircling the adjacent driveshaft and positioned thereadjacent to prevent any lateral deflection thereof. An interengagement mechanism is also included operatively secured for powering movement of the tank clamping device between the closed position securing a tank and the opened position to facilitate release thereof. This construction is not shown or suggested in the above-identified reference patent and for this reason the present invention is

deemed to be patentably distinguishable thereover.

United States Patent No. 3,603,550 discloses a "Quick Release Support" patented September 7, 1971 to C. D. Byrd and assigned to Lacy J. Miller Machine Company, Inc. A support for a breathing apparatus which is quick release designed for use with an oxygen tank is shown in the '550 patent. It is adapted to be strapped to the back of a rescue worker. The support includes a frame adapted to mount upon a support structure and a pair of vertically disposed supports secured to the frame for rotation about vertical axes. Oppositely disposed jaws are secured to the rotatable support for releasably clamping a tank therebetween. A lug is secured to each of the rotatable supports. The lugs are located in vertically spaced parallel planes and a pivotally mounted means is displaceable in a vertical plane from a first position in wedging engagement with the lugs for urging the jaws to be locked in a clamping position and movable to a second unlocked position spaced beyond the lugs for permitting the jaws to pivot to an open position. A quick release mechanical bracket is disclosed in the present invention which is a distinct improvement over the prior art devices and, in particular, a distinct improvement over the above described patent. The configuration for the bracket of the present invention includes a frame with an upper flange extending outwardly therefrom and a lower flange extending outwardly therefrom at a position spatially disposed below the upper flange for the purpose of defining a tank holding zone therebetween. A first driveshaft

means is rotatably mounted relative to the flange and a second driveshaft means is spaced laterally from the first driveshaft means and extends generally parallel perpendicularly with respect thereto both of which are rotatably mounted within the upper and lower flanges. A tank clamping device is secured to the first driveshaft and the second driveshaft and is movable therewith between a closed position retaining a tank in the tank holding zone and an opened position releasing the tank to allow removal thereof from the tank holding zone. Each of the tank clamping devices include a first clamping arm secured to the first driveshaft and a second clamping arm secured to the second driveshaft both being rotatably movable between the closed position for retaining the tank in place and an open position for releasing of the tank. A first guide boss is included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween and adjacent to the first driveshaft. This first guide boss includes a first profiled guide surface at least partially encircling the first driveshaft and positioned thereadjacent to prevent lateral deflection thereof. Similarly a second guide boss device is included fixedly secured to the frame below the upper flange and above the lower frame at a position intermediate therebetween adjacent the second driveshaft. This second guide boss defines a second profiled guide surface at least partially encircling the second driveshaft and positioned thereadjacent to prevent lateral deflection thereof. An interengagement means is also included

operatively connected to the first and second driveshafts for urging simultaneous rotation thereof between the closed position holding the tank and the opened position allowing release of the tank from the tank holding zone. The above patent does not teach or in any other way illustrate the novel aspects of the present invention for minimizing deflection of rotatable and vertically extending members in a tank holding bracket configuration and, as such, the present invention as claimed is deemed to be patentably distinguishable over therefrom.

United States Patent No. 3,737,133 discloses a "Quick-Release Article Holder" patented June 5, 1973 to A. J. Boecker and assigned to Akron Brass Company. The holder for quick release of an article shown in the '133 patent is designed to be mounted upon a vertical surface. It includes a horizontally extending lower support member adapted to be positioned beneath an article. A retaining member is spaced upwardly from the support member and is engageable with the article. A mounting means is included and a retaining member for allowing pivotal movement away from an article engaging position. An operation linkage is connected to the retaining member for effecting pivotal movement. The operating linkage includes a link connected to the retaining member to create a moment arm about the pivotal connection. A toggle plate is secured to the free end of the link. An operating lever is included and a rotatable cam is operatively secured to the lever and engages the toggle plate to provide an over-center toggle joint interconnecting the

link to the lever to allow linear displacement of the link relative to the moment arm in response to a lever actuated rotation of the cam which displaces the plate. A spring means is included for yieldably maintaining the toggle joint in one or the other limits of its position. This patent does indeed contain a disclosure relevant and specifically pertinent to the present invention. However, the present invention provides an improved construction for a quick release mechanical bracket not shown in any manner in the above patent reference. The bracket of the present invention includes a frame extending vertically with an upper flange extending outwardly therefrom and a lower flange extending outwardly therefrom at a position spatially disposed below the upper flange in such a manner as to define a tank holding zone therebetween. The mechanical bracket further includes a first driveshaft rotatably mounted within the upper flange and rotatably mounted within the lower flange and extending therebetween. Also included is a second driveshaft rotatably mounted within the upper flange at a position laterally spatially disposed from the first driveshaft. This second driveshaft is rotatably mounted within the lower flange at a position spatially disposed laterally from the first driveshaft. The second driveshaft extends vertically between the upper flange and the lower flange at a position laterally displaced from the first driveshaft. The second driveshaft and the first driveshaft extend vertically approximately parallel with respect to one another to define a tank holding zone therebetween below the

upper flange and above the lower flange. A tank clamping device is included movable between a closed position for holding the tank and an open position for releasing of the tank. At least one of said tank clamping devices is included within each bracket construction but as many as two, three or even more such clamping mechanisms can be included. Each of these clamping mechanisms however will include a first clamping arm secured to the first driveshaft to be rotatably movable therewith between the closed position in abutment with the tank and an open position. A second clamping arm will be similarly included. They both will be capable of retaining the tank in the holding zone by moving together and by releasing of the tank from the holding zone by being moved to the opened position together. A first guide boss is also included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the first driveshaft. This first guide boss defines a first profiled guide surface at least partially encircling the first driveshaft and positioned thereadjacent to prevent lateral deflection thereof. With a similar construction a second guide boss is included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the second driveshaft. This second guide boss will define a second profile guide surface at least partially encircling the second driveshaft and positioned thereadjacent to prevent lateral deflection thereof. An interengagement means is further included operatively attached

with respect to the first and second driveshafts for urging rotatable movement thereof simultaneously. This interengagement means is operative to rotate the first driveshaft means counterclockwise and the second driveshaft means clockwise simultaneously to move the first clamping arm means and the second clamping arm means toward the closed position for retaining of a tank within the tank holding zone. The interengagement device is operative to rotate the first driveshaft clockwise and the second driveshaft counterclockwise simultaneously to move the first clamping arm means and the second clamping arm means toward the opened position for releasing of the tank from within the tank holding zone. In view of the distinctive improvements set forth in the claims of the present invention over the prior art and, in particular, in relation to the above-identified patent, the present invention as claimed is not deemed to be anticipated nor rendered obvious by the specification and/or claims of the above described reference.

United States Patent No. 3,765,635 discloses a "Bracket For Gas Containers And Similar Tanks" patented October 16, 1973 to W. R. Burrell et al and assigned to Burrell Bros., Inc. The bracket of the '635 patent is designed to support containers of gas under pressure and includes a support collar with a pair of semi-circular members and a hinge and an outwardly projecting ear on the opposite end of each of the members. A fastening and adjustment means is carried by at least one of the ears and a resilient gasket lines the inside surface of the collar. An



attachment means is included for securing the support collar to a mounting structure. It includes a yoke having a base and a pair of arms projecting from the base rigidly secured to one of the semi-circular members of the support collar between the ends thereof. Two pairs of holes are centrally disposed in the base of the yoke. The center line connects the holes of one pair at right angles relative to the center line connecting the holes of the other pair. The spacing between the pairs of holes are approximately equal. This reference patent is distinguishable from the present invention as claimed since the present claims define an improved quick release mechanical bracket for detachably securing a tank thereto including a frame with upper and lower flanges as well as two driveshaft means rotatably mounted within the upper and lower flanges rotatably and extending generally parallel on opposite sides of the tank gripping area. At least one tank clamping means is included secured to the first and second driveshaft which is adapted to secure a tank in place relative to the frame or release such a tank. The tank mechanism includes a first clamping arm and a second clamping arm movable together away from the tank or toward the tank positioned therebetween. Also a first and second guide boss are included which are both fixedly secured with respect to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the first driveshaft. Each guide boss defines a profiled guide surface at least partially encircling the adjacent driveshaft and positioned

thereadjacent to prevent any lateral deflection thereof. An interengagement mechanism is also included operatively secured for powering movement of the tank clamping device between the closed position securing a tank and the opened position to facilitate release thereof. This construction is not shown or suggested in the above-identified reference patent and for this reason the present invention is deemed to be patentably distinguishable thereover.

United States Patent No. 3,780,972 discloses a "Mounting Apparatus For Gas Containers" patented December 25, 1973 to J. C. Brodersen. The mounting mechanism of the '972 patent includes a base member with a retaining means secured thereto for constraining axial movement of the gas cylinder in the longitudinal axis. This retaining means is rigidly affixed to the base. A clamp is resiliently secured to the base for restraining movement of the gas container. The clamp includes a pair of arcuate shaped clamp arms. A positionable lever is included pivotally mounted on the base member which engages the clamp in a first position to prevent displacement of the clamp away from the gas container and disengages from the clamp in the second position to permit displacement of the clamp. A quick release mechanical bracket is disclosed in the present invention which is a distinct improvement over the prior art devices and, in particular, a distinct improvement over the above described patent. The configuration for the bracket of the present invention includes a frame with an upper flange extending

outwardly therefrom and a lower flange extending outwardly therefrom at a position spatially disposed below the upper flange for the purpose of defining a tank holding zone therebetween. A first driveshaft means is rotatably mounted relative to the flange and a second driveshaft means is spaced laterally from the first driveshaft means and extends generally parallel perpendicularly with respect thereto both of which are rotatably mounted within the upper and lower flanges. A tank clamping device is secured to the first driveshaft and the second driveshaft and is movable therewith between a closed position retaining a tank in the tank holding zone and an opened position releasing the tank to allow removal thereof from the tank holding zone. Each of the tank clamping devices include a first clamping arm secured to the first driveshaft and a second clamping arm secured to the second driveshaft both being rotatably movable between the closed position for retaining the tank in place and an open position for releasing of the tank. A first guide boss is included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween and adjacent to the first driveshaft. This first guide boss includes a first profiled guide surface at least partially encircling the first driveshaft and positioned thereadjacent to prevent lateral deflection thereof. Similarly a second guide boss device is included fixedly secured to the frame below the upper flange and above the lower frame at a position intermediate therebetween adjacent the second driveshaft. This

second guide boss defines a second profiled guide surface at least partially encircling the second driveshaft and positioned thereadjacent to prevent lateral deflection thereof. An interengagement means is also included operatively connected to the first and second driveshafts for urging simultaneous rotation thereof between the closed position holding the tank and the opened position allowing release of the tank from the tank holding zone. The above patent does not teach or in any other way illustrate the novel aspects of the present invention for minimizing deflection of rotatable and vertically extending members in a tank holding bracket configuration and, as such, the present invention as claimed is deemed to be patentably distinguishable over therefrom.

United States Patent No. 3,823,907 discloses a "Positive Locking Device" patented July 16, 1974 to T. Ziaylek, Jr. A positive locking device is defined in the '907 patent for use with a bracket which is adapted to be attached to a package of rescue equipment including breathing apparatus. The device includes a pair of generally parallel slide rails mounted on the bracket. A locking means is slidably mounted between the slide rails. This locking means includes first and second housings mounted adjacent the extremities of the locking means. First and second arm members are positioned extending outwardly therefrom and pivotally mounted thereto. The slide rails are adjacent to the housing and are adapted to positively grasp the breathing apparatus responsive to actuation of the locking device. The arm

members are received in openings in the respective housings. These openings are of a specific contour to allow the pivoting of the arm members therein. The first housing includes an actuating means active on the first arm and effective to move the locking device toward the first arm member and effective to pivot the first arm member toward convergence with the second arm member. The second housing includes an adjustable positioning device which is active on the second arm to pivot it toward convergence with the first arm to facilitate grasping of the breathing apparatus. This reference patent is distinguishable from the present invention as claimed since the present claims define an improved quick release mechanical bracket for detachably securing a tank thereto including a frame with upper and lower flanges as well as two driveshaft means rotatably mounted within the upper and lower flanges rotatably and extending generally parallel on opposite sides of the tank gripping area. At least one tank clamping means is included secured to the first and second driveshaft which is adapted to secure a tank in place relative to the frame or release such a tank. The tank mechanism includes a first clamping arm and a second clamping arm movable together away from the tank or toward the tank positioned therebetween. Also a first and second guide boss are included which are both fixedly secured with respect to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the first driveshaft. Each guide boss defines a profiled guide surface at least partially encircling

the adjacent driveshaft and positioned thereadjacent to prevent any lateral deflection thereof. An interengagement mechanism is also included operatively secured for powering movement of the tank clamping device between the closed position securing a tank and the opened position to facilitate release thereof. This construction is not shown or suggested in the above-identified reference patent and for this reason the present invention is deemed to be patentably distinguishable thereover.

United States Patent No. 3,921,950 discloses "Extinguisher Mountings" patented November 25, 1975 to V. E. Sentinella. The '950 patent discloses a fire extinguisher mount with a spine member having a fixing means for fastening the member in an upright position relative to the support. An extinguisher base projects horizontally from the bottom of the spine. A gripper lever is pivotally mounted on the base support remotely positioned relative to the spine for movement toward and away from it. A pressure plate is mounted on the distal end of the lever and a tension lever is pivotally mounted at one end on the spine. Linkage is pivotally connected between the gripping lever and the tension lever. A manual operating mechanism is also included interconnecting the linkage and the levers for moving them to an over-center position to grip the extinguisher in the mounting. A quick release mechanical bracket is disclosed in the present invention which is a distinct improvement over the prior art devices and, in particular, a distinct improvement over the above described patent. The configuration for the bracket of

the present invention includes a frame with an upper flange extending outwardly therefrom and a lower flange extending outwardly therefrom at a position spatially disposed below the upper flange for the purpose of defining a tank holding zone therebetween. A first driveshaft means is rotatably mounted relative to the flange and a second driveshaft means is spaced laterally from the first driveshaft means and extends generally parallel perpendicularly with respect thereto both of which are rotatably mounted within the upper and lower flanges. A tank clamping device is secured to the first driveshaft and the second driveshaft and is movable therewith between a closed position retaining a tank in the tank holding zone and an opened position releasing the tank to allow removal thereof from the tank holding zone. Each of the tank clamping devices include a first clamping arm secured to the first driveshaft and a second clamping arm secured to the second driveshaft both being rotatably movable between the closed position for retaining the tank in place and an open position for releasing of the tank. A first guide boss is included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween and adjacent to the first driveshaft. This first guide boss includes a first profiled guide surface at least partially encircling the first driveshaft and positioned thereadjacent to prevent lateral deflection thereof. Similarly a second guide boss device is included fixedly secured to the frame below the upper flange and above the lower frame at a position

intermediate therebetween adjacent the second driveshaft. This second guide boss defines a second profiled guide surface at least partially encircling the second driveshaft and positioned thereadjacent to prevent lateral deflection thereof. An interengagement means is also included operatively connected to the first and second driveshafts for urging simultaneous rotation thereof between the closed position holding the tank and the opened position allowing release of the tank from the tank holding zone. The above patent does not teach or in any other way illustrate the novel aspects of the present invention for minimizing deflection of rotatable and vertically extending members in a tank holding bracket configuration and, as such, the present invention as claimed is deemed to be patentably distinguishable over therefrom.

United States Design Patent No. Des.244,392 discloses a "Combined Fire Extinguisher And Bracket" patented May 17, 1977 to R. J. Montambo and assigned to The Angul Company. The '392 design patent discloses a combined fire extinguisher and mounting bracket which includes a single strap adapted to secure a fire extinguisher with respect to a vertically extending bracket. This reference patent is distinguishable from the present invention as claimed since the present claims define an improved quick release mechanical bracket for detachably securing a tank thereto including a frame with upper and lower flanges as well as two driveshaft means rotatably mounted within the upper and lower flanges rotatably and extending generally parallel on opposite



sides of the tank gripping area. At least one tank clamping means is included secured to the first and second driveshaft which is adapted to secure a tank in place relative to the frame or release such a tank. The tank mechanism includes a first clamping arm and a second clamping arm movable together away from the tank or toward the tank positioned therebetween. Also a first and second guide boss are included which are both fixedly secured with respect to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the first driveshaft. Each guide boss defines a profiled guide surface at least partially encircling the adjacent driveshaft and positioned thereadjacent to prevent any lateral deflection thereof. An interengagement mechanism is also included operatively secured for powering movement of the tank clamping device between the closed position securing a tank and the opened position to facilitate release thereof. This construction is not shown or suggested in the above-identified reference patent and for this reason the present invention is deemed to be patentably distinguishable thereover.

United States Patent No. 4,023,761 discloses an "Adjustable Bracket To Stabilize Upright Compressed Gas Containers Against Displacement On Mobile Vehicles And Ship-Board Installations And Maintenance Shops" patented May 17, 1977 to J. Molis. The brace of the '761 patent is adjustable to facilitate securement of a gas canister in an upright stabilized position during mobile transport thereof. The adjustable brace includes a

container collar for extending around the container with a pair of diametrically opposed horizontal passages extending therethrough arranged in axial alignment with one another as well as having a vertically extending slot therethrough encompassing the flat bar. A pair of braces are included on the collar of which one of them is movably mounted within one of the pair of horizontally extending passages and the other is movably mounted within the other of the pair of horizontally extending passages. An arcuate section on each of the braces is designed for engaging opposite sides of the periphery of the container. Means are included for moving the other of the pair of braces to bring the arcuate section thereof into engagement with the adjacent portion of the periphery of the container and in this manner bring the arcuate portion of one of the braces into engagement with the opposite end portion of the periphery of the container as well as tightening the rear of the collar against the upright flat bar. A quick release mechanical bracket is disclosed in the present invention which is a distinct improvement over the prior art devices and, in particular, a distinct improvement over the above described patent. The configuration for the bracket of the present invention includes a frame with an upper flange extending outwardly therefrom and a lower flange extending outwardly therefrom at a position spatially disposed below the upper flange for the purpose of defining a tank holding zone therebetween. A first driveshaft means is rotatably mounted relative to the flange and a second driveshaft means is spaced laterally from the

first driveshaft means and extends generally parallel perpendicularly with respect thereto both of which are rotatably mounted within the upper and lower flanges. A tank clamping device is secured to the first driveshaft and the second driveshaft and is movable therewith between a closed position retaining a tank in the tank holding zone and an opened position releasing the tank to allow removal thereof from the tank holding zone. Each of the tank clamping devices include a first clamping arm secured to the first driveshaft and a second clamping arm secured to the second driveshaft both being rotatably movable between the closed position for retaining the tank in place and an open position for releasing of the tank. A first guide boss is included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween and adjacent to the first driveshaft. This first guide boss includes a first profiled guide surface at least partially encircling the first driveshaft and positioned thereadjacent to prevent lateral deflection thereof. Similarly a second guide boss device is included fixedly secured to the frame below the upper flange and above the lower frame at a position intermediate therebetween adjacent the second driveshaft. This second guide boss defines a second profiled guide surface at least partially encircling the second driveshaft and positioned thereadjacent to prevent lateral deflection thereof. An interengagement means is also included operatively connected to the first and second driveshafts for urging simultaneous rotation

thereof between the closed position holding the tank and the opened position allowing release of the tank from the tank holding zone. The above patent does not teach or in any other way illustrate the novel aspects of the present invention for minimizing deflection of rotatable and vertically extending members in a tank holding bracket configuration and, as such, the present invention as claimed is deemed to be patentably distinguishable over therefrom.

United States Design Patent No. Des.245,929 discloses a "Fire Extinguisher Bracket" patented September 27, 1977 to R. J. Montambo and assigned to The Ansul Company. The '929 patent discloses a fire extinguisher bracket including a vertically extending member along with a single horizontally extending brace. It does not include any vertically extending rotatable members mounted with respect thereto and, as such, the present invention is patentably distinguishable thereover.

United States Patent No. 4,213,592 discloses a "Bracket Assembly For Mounting Fire Extinguishers Thereon" patented to D. J. Lingenfelser on July 22, 1980 and assigned to Caterpillar Tractor Co. The bracket assembly shown in the '592 patent is designed to mount a tubular article therein. It includes a back plate with a bottom plate and a mounting recess for receiving an article therewithin. A latch is included which includes a lever pivotally mounted on the upper end of the bracket for releasably retaining an article therein. A kick-out means is included comprising an elastomeric pad having a circumferential length

substantially less than 180 degrees. A retaining means is secured to the lower end of the bracket for retaining the lower end of the article on the bracket and for releasing the article responsive to ejection of the article from the bracket. A retaining means includes a lug secured to the bottom plate and separated from the back plate to provide a space for the reception of a rim of an article therewithin. This reference patent is distinguishable from the present invention as claimed since the present claims define an improved quick release mechanical bracket for detachably securing a tank thereto including a frame with upper and lower flanges as well as two driveshaft means rotatably mounted within the upper and lower flanges rotatably and extending generally parallel on opposite sides of the tank gripping area. At least one tank clamping means is included secured to the first and second driveshaft which is adapted to secure a tank in place relative to the frame or release such a tank. The tank mechanism includes a first clamping arm and a second clamping arm movable together away from the tank or toward the tank positioned therebetween. Also a first and second guide boss are included which are both fixedly secured with respect to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the first driveshaft. Each guide boss defines a profiled guide surface at least partially encircling the adjacent driveshaft and positioned thereadjacent to prevent any lateral deflection thereof. An interengagement mechanism is also

included operatively secured for powering movement of the tank clamping device between the closed position securing a tank and the opened position to facilitate release thereof. This construction is not shown or suggested in the above-identified reference patent and for this reason the present invention is deemed to be patentably distinguishable thereover.

United States Patent No. 4,304,383 discloses a "Bracket For Holding A Tank" patented December 8, 1981 to P. O. Huston. The '383 patent discloses a unit for holding of a fire extinguisher including a bracket body having transversely extending curved ribs against which a portion of the fire extinguisher will rest. A plurality of walls are included extending between the ribs to define two apertures located in opposite sides of the bracket body. A clamping device is located on the upper portion of the bracket body. A pair of straps are detachably affixed to the bracket. A support member is formed on the lower portion of the bracket body for engaging of the extinguisher and having a face bearing including a set of spaced apart ribs. A shim is detachably affixed to the bracket body and includes a face bearing corresponding set of spaced apart ribs. The ribs on the shim and the support member are adapted to engage only responsive to insertion of the shim between the fire extinguisher and the support member for supporting different fire extinguishers having various different diameters thereof. A quick release mechanical bracket is disclosed in the present invention which is a distinct improvement over the prior art

devices and, in particular, a distinct improvement over the above described patent. The configuration for the bracket of the present invention includes a frame with an upper flange extending outwardly therefrom and a lower flange extending outwardly therefrom at a position spatially disposed below the upper flange for the purpose of defining a tank holding zone therebetween. A first driveshaft means is rotatably mounted relative to the flange and a second driveshaft means is spaced laterally from the first driveshaft means and extends generally parallel perpendicularly with respect thereto both of which are rotatably mounted within the upper and lower flanges. A tank clamping device is secured to the first driveshaft and the second driveshaft and is movable therewith between a closed position retaining a tank in the tank holding zone and an opened position releasing the tank to allow removal thereof from the tank holding zone. Each of the tank clamping devices include a first clamping arm secured to the first driveshaft and a second clamping arm secured to the second driveshaft both being rotatably movable between the closed position for retaining the tank in place and an open position for releasing of the tank. A first guide boss is included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween and adjacent to the first driveshaft. This first guide boss includes a first profiled guide surface at least partially encircling the first driveshaft and positioned thereadjacent to prevent lateral deflection thereof. Similarly a

second guide boss device is included fixedly secured to the frame below the upper flange and above the lower frame at a position intermediate therebetween adjacent the second driveshaft. This second guide boss defines a second profiled guide surface at least partially encircling the second driveshaft and positioned thereadjacent to prevent lateral deflection thereof. An interengagement means is also included operatively connected to the first and second driveshafts for urging simultaneous rotation thereof between the closed position holding the tank and the opened position allowing release of the tank from the tank holding zone. The above patent does not teach or in any other way illustrate the novel aspects of the present invention for minimizing deflection of rotatable and vertically extending members in a tank holding bracket configuration and, as such, the present invention as claimed is deemed to be patentably distinguishable over therefrom.

United States Design Patent No. Des.267,227 discloses a "Support Bracket For A Gas Cylinder" patented December 14, 1982 to T. Ziaylek, Jr. and assigned to Ziamatic Corporation. The '227 design patent discloses a support bracket for gas canisters and canisters including multiple straps. There is no showing in this patent of any vertically extending rotatable members for operating clamping arms and, as such, the present invention as claimed is deemed to be patentably distinguishable thereover.

United States Patent No. 4,555,083 discloses a "Scuba Tank Positioner" patented November 26, 1985 to F. D. Carter. The



positioner of the '083 patent is designed for securement of a cylindrical tank such as a scuba tank and includes a ring shaped band formed of a rigid material defining an interior area. This ring shaped band includes an expanding mechanism for varying the size of the interior area. It also includes a slit defined within the band extending the entire width therethrough. A planar supporting plate is included of a sheet material having a pre-defined length and width. The band is attached by connecting means to the plate. This connecting means includes a dovetail slot assembly. The band is removable and capable of being separated from the plate. A latching assembly is mounted on the plate including at least one latching member pivotally movable on the plate between a latching position and an unlatched position. The band includes a pin. The latching member is designed to engage the pin when in the latching position to facilitate securement of the band to the plate. This reference patent is distinguishable from the present invention as claimed since the present claims define an improved quick release mechanical bracket for detachably securing a tank thereto including a frame with upper and lower flanges as well as two driveshaft means rotatably mounted within the upper and lower flanges rotatably and extending generally parallel on opposite sides of the tank gripping area. At least one tank clamping means is included secured to the first and second driveshaft which is adapted to secure a tank in place relative to the frame or release such a tank. The tank mechanism includes a first clamping arm and a

second clamping arm movable together away from the tank or toward the tank positioned therebetween. Also a first and second guide boss are included which are both fixedly secured with respect to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the first driveshaft. Each guide boss defines a profiled guide surface at least partially encircling the adjacent driveshaft and positioned thereadjacent to prevent any lateral deflection thereof. An interengagement mechanism is also included operatively secured for powering movement of the tank clamping device between the closed position securing a tank and the opened position to facilitate release thereof. This construction is not shown or suggested in the above-identified reference patent and for this reason the present invention is deemed to be patentably distinguishable thereover.

United States Patent No. 4,586,687 discloses an "Air Tank Support Of The Quick Release Type" patented May 6, 1986 to T. Ziaylek, Jr. The '687 patent discloses a quick release air tank support which includes a means for rotating bars between positions including first and second cranks connected to and adapted to rotate the respective bars. It includes means interengaging the crank means with each other both for joint swinging movement in the first direction effective to rotate the bars to their first position and a second opposite position in which the bars are rotated in their second position. Means are included which are designed to be controlled by the user for

biasing the crank in the first and second directions thereof. The respective cranks include crank elements having proximal ends fixedly attached with respect to the bars and distal ends overlapping the space between the bars. The means interengaging the crank includes a slidable pivotal connection at the distal ends of the crank elements. This patent does indeed contain a disclosure relevant and specifically pertinent to the present invention. However, the present invention provides an improved construction for a quick release mechanical bracket not shown in any manner in the above patent reference. The bracket of the present invention includes a frame extending vertically with an upper flange extending outwardly therefrom and a lower flange extending outwardly therefrom at a position spatially disposed below the upper flange in such a manner as to define a tank holding zone therebetween. The mechanical bracket further includes a first driveshaft rotatably mounted within the upper flange and rotatably mounted within the lower flange and extending therebetween. Also included is a second driveshaft rotatably mounted within the upper flange at a position laterally spatially disposed from the first driveshaft. This second driveshaft is rotatably mounted within the lower flange at a position spatially disposed laterally from the first driveshaft. The second driveshaft extends vertically between the upper flange and the lower flange at a position laterally displaced from the first driveshaft. The second driveshaft and the first driveshaft extend vertically approximately parallel with respect to one

another to define a tank holding zone therebetween below the upper flange and above the lower flange. A tank clamping device is included movable between a closed position for holding the tank and an open position for releasing of the tank. At least one of said tank clamping devices is included within each bracket construction but as many as two, three or even more such clamping mechanisms can be included. Each of these clamping mechanisms however will include a first clamping arm secured to the first driveshaft to be rotatably movable therewith between the closed position in abutment with the tank and an open position. A second clamping arm will be similarly included. They both will be capable of retaining the tank in the holding zone by moving together and by releasing of the tank from the holding zone by being moved to the opened position together. A first guide boss is also included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the first driveshaft. This first guide boss defines a first profiled guide surface at least partially encircling the first driveshaft and positioned thereadjacent to prevent lateral deflection thereof. With a similar construction a second guide boss is included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the second driveshaft. This second guide boss will define a second profile guide surface at least partially encircling the second driveshaft and positioned thereadjacent to prevent lateral deflection thereof. An

interengagement means is further included operatively attached with respect to the first and second driveshafts for urging rotatable movement thereof simultaneously. This interengagement means is operative to rotate the first driveshaft means counterclockwise and the second driveshaft means clockwise simultaneously to move the first clamping arm means and the second clamping arm means toward the closed position for retaining of a tank within the tank holding zone. The interengagement device is operative to rotate the first driveshaft clockwise and the second driveshaft counterclockwise simultaneously to move the first clamping arm means and the second clamping arm means toward the opened position for releasing of the tank from within the tank holding zone. In view of the distinctive improvements set forth in the claims of the present invention over the prior art and, in particular, in relation to the above-identified patent, the present invention as claimed is not deemed to be anticipated nor rendered obvious by the specification and/or claims of the above described reference.

United States Patent No. 4,821,990 discloses a "Flashlight Holder" patented April 18, 1989 to T. L. Porter et al. The device disclosed in the '990 patent includes a base plate with two support plates each including two holes and first and second rotatable connecting rods. Each rod includes two ends formed such that the ends of each of the connecting rods are parallel and displaced along the same line and each rod has a U-shaped middle portion with legs and a bite portion. The bite

portion is parallel to the ends but are not along the same line as the respective ends. The ends of the first and second connecting rods are placed in the holes of the support plates with the middle portion of the first connecting rod overlapping the middle portion of the second connecting rod in such a manner that the first connecting rod rotates a greater amount than the second connecting rod. A spring is included with an end connected to each of the middle portions and the connecting rods that allow the first connecting rod to rotate more easily than the second one. A curved clasp is attached to each end of the first and second connecting rods. These clasps are attached such that when rotated from an open position to a closed position the article can be held and when rotated from a closed position to an open position the article can be allowed to be removed. A quick release mechanical bracket is disclosed in the present invention which is a distinct improvement over the prior art devices and, in particular, a distinct improvement over the above described patent. The configuration for the bracket of the present invention includes a frame with an upper flange extending outwardly therefrom and a lower flange extending outwardly therefrom at a position spatially disposed below the upper flange for the purpose of defining a tank holding zone therebetween. A first driveshaft means is rotatably mounted relative to the flange and a second driveshaft means is spaced laterally from the first driveshaft means and extends generally parallel perpendicularly with respect thereto both of which are rotatably

mounted within the upper and lower flanges. A tank clamping device is secured to the first driveshaft and the second driveshaft and is movable therewith between a closed position retaining a tank in the tank holding zone and an opened position releasing the tank to allow removal thereof from the tank holding zone. Each of the tank clamping devices include a first clamping arm secured to the first driveshaft and a second clamping arm secured to the second driveshaft both being rotatably movable between the closed position for retaining the tank in place and an open position for releasing of the tank. A first guide boss is included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween and adjacent to the first driveshaft. This first guide boss includes a first profiled guide surface at least partially encircling the first driveshaft and positioned thereadjacent to prevent lateral deflection thereof. Similarly a second guide boss device is included fixedly secured to the frame below the upper flange and above the lower frame at a position intermediate therebetween adjacent the second driveshaft. This second guide boss defines a second profiled guide surface at least partially encircling the second driveshaft and positioned thereadjacent to prevent lateral deflection thereof. An interengagement means is also included operatively connected to the first and second driveshafts for urging simultaneous rotation thereof between the closed position holding the tank and the opened position allowing release of the tank from the tank

holding zone. The above patent does not teach or in any other way illustrate the novel aspects of the present invention for minimizing deflection of rotatable and vertically extending members in a tank holding bracket configuration and, as such, the present invention as claimed is deemed to be patentably distinguishable over therefrom.

United States Patent No. 4,979,659 discloses an "Air Bottle Support Harness" patented December 25, 1990 to K. B. Boyd. The '659 patent discloses a shoulder harness for allowing a firefighter to carry an air bottle. It includes an elongated strap having at a first end a strap buckle for receiving the second end of the strap having a buckle engaging portion included thereon. The straps forms a continuous loop arm sling when the ends are buckled together in order to hang from the shoulder of a firefighter. The arm sling includes a back side segment extending down the firefighter's back when worn by the firefighter. A non-adjustable lower loop and an adjustable upper loop are vertically spaced from one another and extend rearwardly and laterally from the elongated strap. Each loop is attached at one of its sides to the back side segment of the sling at one point. The lower retention loop includes crossed strap portions connected thereto forming a support to hold the air bottle and prevent vertical movement downwardly from the shoulder harness. An upper retention loop has releasably overlapping sections opposite its attachment to the strap segment for adjustability. The overlapping sections include quick release fasteners which



facilitate insertion and/or removal of the air bottle from the shoulder harness for convenience. This reference patent is distinguishable from the present invention as claimed since the present claims define an improved quick release mechanical bracket for detachably securing a tank thereto including a frame with upper and lower flanges as well as two driveshaft means rotatably mounted within the upper and lower flanges rotatably and extending generally parallel on opposite sides of the tank gripping area. At least one tank clamping means is included secured to the first and second driveshaft which is adapted to secure a tank in place relative to the frame or release such a tank. The tank mechanism includes a first clamping arm and a second clamping arm movable together away from the tank or toward the tank positioned therebetween. Also a first and second guide boss are included which are both fixedly secured with respect to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the first driveshaft. Each guide boss defines a profiled guide surface at least partially encircling the adjacent driveshaft and positioned thereadjacent to prevent any lateral deflection thereof. An interengagement mechanism is also included operatively secured for powering movement of the tank clamping device between the closed position securing a tank and the opened position to facilitate release thereof. This construction is not shown or suggested in the above-identified reference patent and for this reason the present invention is deemed to be patentably

distinguishable thereover.

United States 5,025,935 discloses a "Portable Upright Scuba Cylinder Retention Rack" patented June 25, 1991 to J. L. Hadachek. The retention rack disclosed in the '935 patent is designed to be portable for maintaining compressed gas cylinders in an upright position without using any tools. It includes a base capable of retaining the bottom of the cylinder and a top piece capable of retaining the cylinder's upper portion and providing attachment to a permanent structure as needed. A compressible component extends between and connects the base piece and the top piece to facilitate securement of gas cylinders within the present apparatus. A quick release mechanical bracket is disclosed in the present invention which is a distinct improvement over the prior art devices and, in particular, a distinct improvement over the above described patent. The configuration for the bracket of the present invention includes a frame with an upper flange extending outwardly therefrom and a lower flange extending outwardly therefrom at a position spatially disposed below the upper flange for the purpose of defining a tank holding zone therebetween. A first driveshaft means is rotatably mounted relative to the flange and a second driveshaft means is spaced laterally from the first driveshaft means and extends generally parallel perpendicularly with respect thereto both of which are rotatably mounted within the upper and lower flanges. A tank clamping device is secured to the first driveshaft and the second driveshaft and is movable therewith

between a closed position retaining a tank in the tank holding zone and an opened position releasing the tank to allow removal thereof from the tank holding zone. Each of the tank clamping devices include a first clamping arm secured to the first driveshaft and a second clamping arm secured to the second driveshaft both being rotatably movable between the closed position for retaining the tank in place and an open position for releasing of the tank. A first guide boss is included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween and adjacent to the first driveshaft. This first guide boss includes a first profiled guide surface at least partially encircling the first driveshaft and positioned thereadjacent to prevent lateral deflection thereof. Similarly a second guide boss device is included fixedly secured to the frame below the upper flange and above the lower frame at a position intermediate therebetween adjacent the second driveshaft. This second guide boss defines a second profiled guide surface at least partially encircling the second driveshaft and positioned thereadjacent to prevent lateral deflection thereof. An interengagement means is also included operatively connected to the first and second driveshafts for urging simultaneous rotation thereof between the closed position holding the tank and the opened position allowing release of the tank from the tank holding zone. The above patent does not teach or in any other way illustrate the novel aspects of the present invention for minimizing deflection of rotatable and vertically

extending members in a tank holding bracket configuration and, as such, the present invention as claimed is deemed to be patentably distinguishable over therefrom.

United States Patent No. 5,318,266 discloses a "Drink Holder" patented June 7, 1994 to H. Liu. The holder of the '266 patent includes diametrically adjustable and collapsible structures for facilitating the retaining of drinking vessels having a vertical position plate. The device includes two semi-round arms fixed with an arm holding base pivotally connected with the position plate. The plate cap is pivotal with the position plate to be swung open for 90 degrees or closed together relative to one another. The semi-round arms define a round hole for receiving of the vessel such as a cup or can to fit therein and to sit on the inner surface of the plate cap. The semi-round arms are provided with gear teeth to engage each other to enable both arms to move inward or outward to enlarge or contract the hole defined therebetween. This patent does indeed contain a disclosure relevant and specifically pertinent to the present invention. However, the present invention provides an improved construction for a quick release mechanical bracket not shown in any manner in the above patent reference. The bracket of the present invention includes a frame extending vertically with an upper flange extending outwardly therefrom and a lower flange extending outwardly therefrom at a position spatially disposed below the upper flange in such a manner as to define a tank holding zone therebetween. The mechanical bracket further

includes a first driveshaft rotatably mounted within the upper flange and rotatably mounted within the lower flange and extending therebetween. Also included is a second driveshaft rotatably mounted within the upper flange at a position laterally spatially disposed from the first driveshaft. This second driveshaft is rotatably mounted within the lower flange at a position spatially disposed laterally from the first driveshaft. The second driveshaft extends vertically between the upper flange and the lower flange at a position laterally displaced from the first driveshaft. The second driveshaft and the first driveshaft extend vertically approximately parallel with respect to one another to define a tank holding zone therebetween below the upper flange and above the lower flange. A tank clamping device is included movable between a closed position for holding the tank and an open position for releasing of the tank. At least one of said tank clamping devices is included within each bracket construction but as many as two, three or even more such clamping mechanisms can be included. Each of these clamping mechanisms however will include a first clamping arm secured to the first driveshaft to be rotatably movable therewith between the closed position in abutment with the tank and an open position. A second clamping arm will be similarly included. They both will be capable of retaining the tank in the holding zone by moving together and by releasing of the tank from the holding zone by being moved to the opened position together. A first guide boss is also included fixedly secured to the frame below the upper

flange and above the lower flange at a position intermediate therebetween adjacent the first driveshaft. This first guide boss defines a first profiled guide surface at least partially encircling the first driveshaft and positioned thereadjacent to prevent lateral deflection thereof. With a similar construction a second guide boss is included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the second driveshaft. This second guide boss will define a second profile guide surface at least partially encircling the second driveshaft and positioned thereadjacent to prevent lateral deflection thereof. An interengagement means is further included operatively attached with respect to the first and second driveshafts for urging rotatable movement thereof simultaneously. This interengagement means is operative to rotate the first driveshaft means counterclockwise and the second driveshaft means clockwise simultaneously to move the first clamping arm means and the second clamping arm means toward the closed position for retaining of a tank within the tank holding zone. The interengagement device is operative to rotate the first driveshaft clockwise and the second driveshaft counterclockwise simultaneously to move the first clamping arm means and the second clamping arm means toward the opened position for releasing of the tank from within the tank holding zone. In view of the distinctive improvements set forth in the claims of the present invention over the prior art and, in particular, in

relation to the above-identified patent, the present invention as claimed is not deemed to be anticipated nor rendered obvious by the specification and/or claims of the above described reference.

United States Design Patent No. Des.347,735 discloses a "Quick Release Support Tank Bracket" patented June 14, 1994 to T. Ziaylek, Jr. et al. The '735 patent includes a quick release support tank bracket which includes movable arms and vertically extending rotatable members but does not include the guide bosses of the present invention and, as such, does not anticipate the combination set forth in the present invention.

United States Patent No. 5,522,530 discloses a "Hand Truck Sentry System" patented June 4, 1996 to C. A. Boettcher. The '530 patent discloses an apparatus for detachably securing of a hand truck to a structure where the hand truck includes a base and a pair of side rails. It includes a holding means for holding the article mounted to the structure which includes a surface for receiving the base of the hand truck. A pair of claws are included which are each pivotally mounted to the holding arms for pure rotatable movement between an open released position and a closed retained position for securing the side rails of the hand truck. A bar is slidably mounted to the holding mechanism for sliding movement between a first position and a second position. This bar is slidably connected to the claws. The claws will pivot between an open released position and the closed retained position as the bar moves between the first and second position respectively. A locking means is

included for securing the bar in the second position and for securing the pair of rails between the claws and the bar. A releasing mechanism is included for releasing the locking means to allow movement of the bar as may be needed. This reference patent is distinguishable from the present invention as claimed since the present claims define an improved quick release mechanical bracket for detachably securing a tank thereto including a frame with upper and lower flanges as well as two driveshaft means rotatably mounted within the upper and lower flanges rotatably and extending generally parallel on opposite sides of the tank gripping area. At least one tank clamping means is included secured to the first and second driveshaft which is adapted to secure a tank in place relative to the frame or release such a tank. The tank mechanism includes a first clamping arm and a second clamping arm movable together away from the tank or toward the tank positioned therebetween. Also a first and second guide boss are included which are both fixedly secured with respect to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the first driveshaft. Each guide boss defines a profiled guide surface at least partially encircling the adjacent driveshaft and positioned thereadjacent to prevent any lateral deflection thereof. An interengagement mechanism is also included operatively secured for powering movement of the tank clamping device between the closed position securing a tank and the opened position to facilitate release thereof. This



construction is not shown or suggested in the above-identified reference patent and for this reason the present invention is deemed to be patentably distinguishable thereover.

United States Patent No. 5,533,701 discloses a "Foldable Stabilizing Bracket For Compressed Air Tanks" patented July 9, 1996 to R. D. Trank. The '701 patent discloses a bracket assembly for retaining a cylindrical compressed air tank vertically. The assembly includes a mounting track with a channel extending longitudinally therein. Means are connected to the mounting track for attaching it to a surface. A bracket is connected to the mounting bracket which includes a pair of arms each of which is movable from a first position basically perpendicular to the mounting rack and a second position orthogonal to the mounting rack and to the arm first position. The pair of arms are spaced apart at a predetermined distance to substantially engage a portion of the cylindrical compressed air tank for facilitating holding thereof relative to the rack. They are movable between an extending and non-extending position. The bracket includes two identical components each substantially forming half of the bracket and each separable from one another. The bracket component includes a rigid elongated brace including a means for attaching the brace to the mounting track. The brace includes an interlocking means for interlocking one of the braces forming a bracket component to another identical brace having interlocking means. Each of the bracket identical components include one of the arms for encompassing a portion of the

circumference of the cylindrical portion of the compressed air tank. Each bracket includes a hinge joint connecting the brace and the arm to allow pivotal movement of the arms relative to the brace. A quick release mechanical bracket is disclosed in the present invention which is a distinct improvement over the prior art devices and, in particular, a distinct improvement over the above described patent. The configuration for the bracket of the present invention includes a frame with an upper flange extending outwardly therefrom and a lower flange extending outwardly therefrom at a position spatially disposed below the upper flange for the purpose of defining a tank holding zone therebetween. A first driveshaft means is rotatably mounted relative to the flange and a second driveshaft means is spaced laterally from the first driveshaft means and extends generally parallel perpendicularly with respect thereto both of which are rotatably mounted within the upper and lower flanges. A tank clamping device is secured to the first driveshaft and the second driveshaft and is movable therewith between a closed position retaining a tank in the tank holding zone and an opened position releasing the tank to allow removal thereof from the tank holding zone. Each of the tank clamping devices include a first clamping arm secured to the first driveshaft and a second clamping arm secured to the second driveshaft both being rotatably movable between the closed position for retaining the tank in place and an open position for releasing of the tank. A first guide boss is included fixedly secured to the frame below the upper flange

and above the lower flange at a position intermediate therebetween and adjacent to the first driveshaft. This first guide boss includes a first profiled guide surface at least partially encircling the first driveshaft and positioned thereadjacent to prevent lateral deflection thereof. Similarly a second guide boss device is included fixedly secured to the frame below the upper flange and above the lower frame at a position intermediate therebetween adjacent the second driveshaft. This second guide boss defines a second profiled guide surface at least partially encircling the second driveshaft and positioned thereadjacent to prevent lateral deflection thereof. An interengagement means is also included operatively connected to the first and second driveshafts for urging simultaneous rotation thereof between the closed position holding the tank and the opened position allowing release of the tank from the tank holding zone. The above patent does not teach or in any other way illustrate the novel aspects of the present invention for minimizing deflection of rotatable and vertically extending members in a tank holding bracket configuration and, as such, the present invention as claimed is deemed to be patentably distinguishable over therefrom.

United States Patent No. 5,354,029 discloses a "Quick Release Tank Support Bracket With Positive Locking Engagement Means" patented October 11, 1994 to T. Ziaylek, Jr. et al. The '029 patent includes a quick release support bracket with a positive locking engagement along with an optional operative seat

back supportive assembly which includes support bars mounted with a frame with clamp arms secured thereto. At least two support bars are included with at least one or more clamp arms secured thereto. The clamp arms are movable between a closed position for retaining a tank therein and an open position for releasing of the tank. Each of the support bars includes a crank arm which is interconnected by an interengagement device for controlling cooperative relative movement of the two clamp arms with respect to one another. This patent does indeed contain a disclosure relevant and specifically pertinent to the present invention. However, the present invention provides an improved construction for a quick release mechanical bracket not shown in any manner in the above patent reference. The bracket of the present invention includes a frame extending vertically with an upper flange extending outwardly therefrom and a lower flange extending outwardly therefrom at a position spatially disposed below the upper flange in such a manner as to define a tank holding zone therebetween. The mechanical bracket further includes a first driveshaft rotatably mounted within the upper flange and rotatably mounted within the lower flange and extending therebetween. Also included is a second driveshaft rotatably mounted within the upper flange at a position laterally spatially disposed from the first driveshaft. This second driveshaft is rotatably mounted within the lower flange at a position spatially disposed laterally from the first driveshaft. The second driveshaft extends vertically between the upper flange and the

lower flange at a position laterally displaced from the first driveshaft. The second driveshaft and the first driveshaft extend vertically approximately parallel with respect to one another to define a tank holding zone therebetween below the upper flange and above the lower flange. A tank clamping device is included movable between a closed position for holding the tank and an open position for releasing of the tank. At least one of said tank clamping devices is included within each bracket construction but as many as two, three or even more such clamping mechanisms can be included. Each of these clamping mechanisms however will include a first clamping arm secured to the first driveshaft to be rotatably movable therewith between the closed position in abutment with the tank and an open position. A second clamping arm will be similarly included. They both will be capable of retaining the tank in the holding zone by moving together and by releasing of the tank from the holding zone by being moved to the opened position together. A first guide boss is also included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the first driveshaft. This first guide boss defines a first profiled guide surface at least partially encircling the first driveshaft and positioned thereadjacent to prevent lateral deflection thereof. With a similar construction a second guide boss is included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the second driveshaft. This

second guide boss will define a second profile guide surface at least partially encircling the second driveshaft and positioned thereadjacent to prevent lateral deflection thereof. An interengagement means is further included operatively attached with respect to the first and second driveshafts for urging rotatable movement thereof simultaneously. This interengagement means is operative to rotate the first driveshaft means counterclockwise and the second driveshaft means clockwise simultaneously to move the first clamping arm means and the second clamping arm means toward the closed position for retaining of a tank within the tank holding zone. The interengagement device is operative to rotate the first driveshaft clockwise and the second driveshaft counterclockwise simultaneously to move the first clamping arm means and the second clamping arm means toward the opened position for releasing of the tank from within the tank holding zone. In view of the distinctive improvements set forth in the claims of the present invention over the prior art and, in particular, in relation to the above-identified patent, the present invention as claimed is not deemed to be anticipated nor rendered obvious by the specification and/or claims of the above described reference.

United States Design Patent No. Des.394,381 discloses a "Tank Bracket" patented May 19, 1998 to T. Ziaylek, Jr. et al. The tank bracket of the '381 design patent includes vertical panels securable to a wall with flexibly resilient double arm clasping means and a band means for securing of a tank with

respect to a bracket. There is no showing in this device of two vertically rotatable members moving grasping arms between a closed and an opened position and, as such, the present invention is not anticipated nor rendered obvious by the above-identified design patent.

United States Patent No. 6,124,796 discloses a "Fire Equipment Bracket Having Integral Locating Beacon" patented September 26, 2000 to W. Hincer. The bracket of the '796 patent is designed specifically for holding fire safety articles. It includes a first support apparatus disposed at least partially encircling the apparatus for supporting an elongated object. A second support apparatus is included of dimension and configuration different from the first apparatus wherein the second support apparatus is disposed to at least partially encircle and in this manner support a fire safety related article on the bracket. A mounting apparatus is included for mounting the bracket as desired. A beacon is fixed to the bracket for rendering it conspicuous and easily observable. A battery is included for powering the beacon and circuitry is included for operably connecting the battery to the beacon. The circuitry includes a proximity switch arranged to close the circuitry and cause the beacon to render the bracket conspicuous when the elongated object is placed in and supported by the bracket. This reference patent is distinguishable from the present invention as claimed since the present claims define an improved quick release mechanical bracket for detachably securing a tank thereto

including a frame with upper and lower flanges as well as two driveshaft means rotatably mounted within the upper and lower flanges rotatably and extending generally parallel on opposite sides of the tank gripping area. At least one tank clamping means is included secured to the first and second driveshaft which is adapted to secure a tank in place relative to the frame or release such a tank. The tank mechanism includes a first clamping arm and a second clamping arm movable together away from the tank or toward the tank positioned therebetween. Also a first and second guide boss are included which are both fixedly secured with respect to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the first driveshaft. Each guide boss defines a profiled guide surface at least partially encircling the adjacent driveshaft and positioned thereadjacent to prevent any lateral deflection thereof. An interengagement mechanism is also included operatively secured for powering movement of the tank clamping device between the closed position securing a tank and the opened position to facilitate release thereof. This construction is not shown or suggested in the above-identified reference patent and for this reason the present invention is deemed to be patentably distinguishable thereover.

United States Patent No. 6,220,557 discloses a "Mounting Bracket Means For Detachably Supporting A Generally Cylindrically-Shaped Member Upon A Wall Surface" patented to M. P. Ziaylek et al on April 24, 2001 and assigned to Michael P.



Ziaylek, Theodore Ziaylek, Jr. and Theodore P. Ziaylek. The mounting bracket of the '557 patent is for detachably supporting a generally cylindrical object relative to a wall which includes a backing plate secured to the wall and at least one clamping member. Two clamp arms are included and a clamp arm adjustment mechanism is attached to the first and second clamp arms and extending therebetween. This adjustment means is adjustably attached to the first and second clamp arms at a position between the clamp arm base and the cylindrical gripping zone to facilitate adjustable sizing of the cylinder gripping zone defined therebetween. The clamp arm adjustment mechanism includes a main rod member attached to the second clamp arm and extending toward the first clamp arm. The main rod member is positioned extending through the first adjustment aperture defined in the first clamp arm. A locking member is adjustably secured to the main rod member adjacent to the first clamp arm opposite from the second clamp arm to limit spatial separation between the first and second clamp arms and provide adjustability. A spacer is attached to the main rod member and is positioned in abutment with and between the locking member and the first clamp arm. The spacer includes an arcuate abutment surface positioned in abutting engagement with respect to the first clamp arm at a position opposite relative to the second clamp arm to maintain direct contact with the first clamp arm regardless of positioning of adjustment of the first clamp arm means with respect to the second clamp arm means. A quick

release mechanical bracket is disclosed in the present invention which is a distinct improvement over the prior art devices and, in particular, a distinct improvement over the above described patent. The configuration for the bracket of the present invention includes a frame with an upper flange extending outwardly therefrom and a lower flange extending outwardly therefrom at a position spatially disposed below the upper flange for the purpose of defining a tank holding zone therebetween. A first driveshaft means is rotatably mounted relative to the flange and a second driveshaft means is spaced laterally from the first driveshaft means and extends generally parallel perpendicularly with respect thereto both of which are rotatably mounted within the upper and lower flanges. A tank clamping device is secured to the first driveshaft and the second driveshaft and is movable therewith between a closed position retaining a tank in the tank holding zone and an opened position releasing the tank to allow removal thereof from the tank holding zone. Each of the tank clamping devices include a first clamping arm secured to the first driveshaft and a second clamping arm secured to the second driveshaft both being rotatably movable between the closed position for retaining the tank in place and an open position for releasing of the tank. A first guide boss is included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween and adjacent to the first driveshaft. This first guide boss includes a first profiled guide surface at least

partially encircling the first driveshaft and positioned thereadjacent to prevent lateral deflection thereof. Similarly a second guide boss device is included fixedly secured to the frame below the upper flange and above the lower frame at a position intermediate therebetween adjacent the second driveshaft. This second guide boss defines a second profiled guide surface at least partially encircling the second driveshaft and positioned thereadjacent to prevent lateral deflection thereof. An interengagement means is also included operatively connected to the first and second driveshafts for urging simultaneous rotation thereof between the closed position holding the tank and the opened position allowing release of the tank from the tank holding zone. The above patent does not teach or in any other way illustrate the novel aspects of the present invention for minimizing deflection of rotatable and vertically extending members in a tank holding bracket configuration and, as such, the present invention as claimed is deemed to be patentably distinguishable over therefrom.

United States Patent No. 6,318,568 discloses an "Installation For Storing And Holding Gas Cylinders" patented November 20, 2001 to A. McCord and assigned to L'Air Liquide, Societe Anonyme pour l'Etude et l'Exploitation des Procedes Georges Claude. The '568 patent shows a device for storing and holding at least two gas cylinders which includes a stationary vertical part having a base affixed to a floor and at least one separate transportable rack for supporting of the cylinders. The

rack is positionable at the base of the stand. The rack has a base plate defining at least two cylinder positioning spaces for freely supporting a cylinder thereagainst. The vertical stand part carries at least two horizontally spaced cylinder holding mechanisms. Each of these has a holding structure movable between an open position and a closed position where the holding structure surrounds at least partially at least the upper part of a cylinder placed vertically on the base plate of the rack itself. This patent does indeed contain a disclosure relevant and specifically pertinent to the present invention. However, the present invention provides an improved construction for a quick release mechanical bracket not shown in any manner in the above patent reference. The bracket of the present invention includes a frame extending vertically with an upper flange extending outwardly therefrom and a lower flange extending outwardly therefrom at a position spatially disposed below the upper flange in such a manner as to define a tank holding zone therebetween. The mechanical bracket further includes a first driveshaft rotatably mounted within the upper flange and rotatably mounted within the lower flange and extending therebetween. Also included is a second driveshaft rotatably mounted within the upper flange at a position laterally spatially disposed from the first driveshaft. This second driveshaft is rotatably mounted within the lower flange at a position spatially disposed laterally from the first driveshaft. The second driveshaft extends vertically between the upper flange and the

lower flange at a position laterally displaced from the first driveshaft. The second driveshaft and the first driveshaft extend vertically approximately parallel with respect to one another to define a tank holding zone therebetween below the upper flange and above the lower flange. A tank clamping device is included movable between a closed position for holding the tank and an open position for releasing of the tank. At least one of said tank clamping devices is included within each bracket construction but as many as two, three or even more such clamping mechanisms can be included. Each of these clamping mechanisms however will include a first clamping arm secured to the first driveshaft to be rotatably movable therewith between the closed position in abutment with the tank and an open position. A second clamping arm will be similarly included. They both will be capable of retaining the tank in the holding zone by moving together and by releasing of the tank from the holding zone by being moved to the opened position together. A first guide boss is also included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the first driveshaft. This first guide boss defines a first profiled guide surface at least partially encircling the first driveshaft and positioned thereadjacent to prevent lateral deflection thereof. With a similar construction a second guide boss is included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the second driveshaft. This

second guide boss will define a second profile guide surface at least partially encircling the second driveshaft and positioned thereadjacent to prevent lateral deflection thereof. An interengagement means is further included operatively attached with respect to the first and second driveshafts for urging rotatable movement thereof simultaneously. This interengagement means is operative to rotate the first driveshaft means counterclockwise and the second driveshaft means clockwise simultaneously to move the first clamping arm means and the second clamping arm means toward the closed position for retaining of a tank within the tank holding zone. The interengagement device is operative to rotate the first driveshaft clockwise and the second driveshaft counterclockwise simultaneously to move the first clamping arm means and the second clamping arm means toward the opened position for releasing of the tank from within the tank holding zone. In view of the distinctive improvements set forth in the claims of the present invention over the prior art and, in particular, in relation to the above-identified patent, the present invention as claimed is not deemed to be anticipated nor rendered obvious by the specification and/or claims of the above described reference.

United States Patent No. 6,520,123 discloses an "Expansion Cage" patented February 18, 2003 to P. A. Parker et al. The support cage of the '123 patent is designed for receiving a cylindrically shaped expansion tank with a specific radius and length. It includes a lower support ring, a plurality

of radial members along with upper support member and a pair of attaching members. This reference patent is distinguishable from the present invention as claimed since the present claims define an improved quick release mechanical bracket for detachably securing a tank thereto including a frame with upper and lower flanges as well as two driveshaft means rotatably mounted within the upper and lower flanges rotatably and extending generally parallel on opposite sides of the tank gripping area. At least one tank clamping means is included secured to the first and second driveshaft which is adapted to secure a tank in place relative to the frame or release such a tank. The tank mechanism includes a first clamping arm and a second clamping arm movable together away from the tank or toward the tank positioned therebetween. Also a first and second guide boss are included which are both fixedly secured with respect to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the first driveshaft. Each guide boss defines a profiled guide surface at least partially encircling the adjacent driveshaft and positioned thereadjacent to prevent any lateral deflection thereof. An interengagement mechanism is also included operatively secured for powering movement of the tank clamping device between the closed position securing a tank and the opened position to facilitate release thereof. This construction is not shown or suggested in the above-identified reference patent and for this reason the present invention is deemed to be patentably distinguishable thereover.

United States Patent No. 6,543,736 discloses a "Quick Release Supporting Apparatus For A Canister" patented April 8, 2003 to B. J. Field and assigned to Pacific Safety Products Inc. The '736 patent discloses a quick release supporting apparatus for use with a canister which includes a mounting bracket and a rigid canister retaining frame mounted thereto. At least one latch is positioned cooperating between the mounting bracket and the retaining frame and a manually operated release actuator cooperates with at least one latch for selective actuation thereof. The retaining frame defines a rigid cavity having an opening for receiving a gas canister therein. A portion of the ring frame extends generally opposite from the mounting bracket. The retaining frame is mounted to the mounting bracket providing a carrying bundle for carrying of the retaining frame. A rigid guard is mounted to the retaining frame. In this manner the frame includes first and second collars which are mounted parallel and spaced apart with corresponding first and second apertures defined thereby which are co-axial along a longitudinal axis of the canisters when mounted journaled in the collars. A quick release mechanical bracket is disclosed in the present invention which is a distinct improvement over the prior art devices and, in particular, a distinct improvement over the above described patent. The configuration for the bracket of the present invention includes a frame with an upper flange extending outwardly therefrom and a lower flange extending outwardly therefrom at a position spatially disposed below the upper flange



for the purpose of defining a tank holding zone therebetween. A first driveshaft means is rotatably mounted relative to the flange and a second driveshaft means is spaced laterally from the first driveshaft means and extends generally parallel perpendicularly with respect thereto both of which are rotatably mounted within the upper and lower flanges. A tank clamping device is secured to the first driveshaft and the second driveshaft and is movable therewith between a closed position retaining a tank in the tank holding zone and an opened position releasing the tank to allow removal thereof from the tank holding zone. Each of the tank clamping devices include a first clamping arm secured to the first driveshaft and a second clamping arm secured to the second driveshaft both being rotatably movable between the closed position for retaining the tank in place and an open position for releasing of the tank. A first guide boss is included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween and adjacent to the first driveshaft. This first guide boss includes a first profiled guide surface at least partially encircling the first driveshaft and positioned thereadjacent to prevent lateral deflection thereof. Similarly a second guide boss device is included fixedly secured to the frame below the upper flange and above the lower frame at a position intermediate therebetween adjacent the second driveshaft. This second guide boss defines a second profiled guide surface at least partially encircling the second driveshaft and positioned

thereadjacent to prevent lateral deflection thereof. An interengagement means is also included operatively connected to the first and second driveshafts for urging simultaneous rotation thereof between the closed position holding the tank and the opened position allowing release of the tank from the tank holding zone. The above patent does not teach or in any other way illustrate the novel aspects of the present invention for minimizing deflection of rotatable and vertically extending members in a tank holding bracket configuration and, as such, the present invention as claimed is deemed to be patentably distinguishable over therefrom.

Publication EP0272494 B1 discloses a "Temperature-controlled tank container" granted March 27, 1991 to H. Gerhard. This publication discloses a temperature-controlled tank container including a tank mounted in a container framework along with a heat insulating jacket surrounding the tank. Partitions are disposed in the tank casing and the insulating jacket. The insulating jacket surrounds the tank casing with a spacing which is substantially constant therealong. The partitions include a plurality of partition rings surrounding the tank casing and radial planes and two partition webs extending parallel on either side of the vertex line of the tank. The partition rings and the webs form a flow path which leads in one direction through a vertex channel defined by the partition webs and surrounding the tank fittings and in the other direction along a path which is defined by the partition rings and covering all the remaining

areas of the tank casing. This reference patent is distinguishable from the present invention as claimed since the present claims define an improved quick release mechanical bracket for detachably securing a tank thereto including a frame with upper and lower flanges as well as two driveshaft means rotatably mounted within the upper and lower flanges rotatably and extending generally parallel on opposite sides of the tank gripping area. At least one tank clamping means is included secured to the first and second driveshaft which is adapted to secure a tank in place relative to the frame or release such a tank. The tank mechanism includes a first clamping arm and a second clamping arm movable together away from the tank or toward the tank positioned therebetween. Also a first and second guide boss are included which are both fixedly secured with respect to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the first driveshaft. Each guide boss defines a profiled guide surface at least partially encircling the adjacent driveshaft and positioned thereadjacent to prevent any lateral deflection thereof. An interengagement mechanism is also included operatively secured for powering movement of the tank clamping device between the closed position securing a tank and the opened position to facilitate release thereof. This construction is not shown or suggested in the above-identified reference patent and for this reason the present invention is deemed to be patentably distinguishable thereover.

Publication EP0284884 B1 discloses a "Tank container" granted November 13, 1991 to H. Gerhard. This publication discloses a tank container formed of a plurality of parallel cylindrical shells which are connected by saddle structures to a pair of end frames. The saddle structures each consist of a U-bar having its legs welded to the respective shell and two L-bars welded to the lower transverse and corresponding corner upright. A quick release mechanical bracket is disclosed in the present invention which is a distinct improvement over the prior art devices and, in particular, a distinct improvement over the above described patent. The configuration for the bracket of the present invention includes a frame with an upper flange extending outwardly therefrom and a lower flange extending outwardly therefrom at a position spatially disposed below the upper flange for the purpose of defining a tank holding zone therebetween. A first driveshaft means is rotatably mounted relative to the flange and a second driveshaft means is spaced laterally from the first driveshaft means and extends generally parallel perpendicularly with respect thereto both of which are rotatably mounted within the upper and lower flanges. A tank clamping device is secured to the first driveshaft and the second driveshaft and is movable therewith between a closed position retaining a tank in the tank holding zone and an opened position releasing the tank to allow removal thereof from the tank holding zone. Each of the tank clamping devices include a first clamping arm secured to the first driveshaft and a second clamping arm

secured to the second driveshaft both being rotatably movable between the closed position for retaining the tank in place and an open position for releasing of the tank. A first guide boss is included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween and adjacent to the first driveshaft. This first guide boss includes a first profiled guide surface at least partially encircling the first driveshaft and positioned thereadjacent to prevent lateral deflection thereof. Similarly a second guide boss device is included fixedly secured to the frame below the upper flange and above the lower frame at a position intermediate therebetween adjacent the second driveshaft. This second guide boss defines a second profiled guide surface at least partially encircling the second driveshaft and positioned thereadjacent to prevent lateral deflection thereof. An interengagement means is also included operatively connected to the first and second driveshafts for urging simultaneous rotation thereof between the closed position holding the tank and the opened position allowing release of the tank from the tank holding zone. The above patent does not teach or in any other way illustrate the novel aspects of the present invention for minimizing deflection of rotatable and vertically extending members in a tank holding bracket configuration and, as such, the present invention as claimed is deemed to be patentably distinguishable over therefrom.

Publication EP0312285 B1 discloses "A Temperature

controllable tank container" granted April 3, 1991 to R. Fossey. This publication discloses a temperature controlled tank container comprising a cylindrical tank mounted between a front and rear frame with a refrigerating unit mounted on the front end frame. The insulating shell is provided around the tank. Side ducts are included for carrying chilled air from the refrigerating unit and are provided in similar locations on each side of the tank for chilling thereof and for chilling the contents of the tank. This reference patent is distinguishable from the present invention as claimed since the present claims define an improved quick release mechanical bracket for detachably securing a tank thereto including a frame with upper and lower flanges as well as two driveshaft means rotatably mounted within the upper and lower flanges rotatably and extending generally parallel on opposite sides of the tank gripping area. At least one tank clamping means is included secured to the first and second driveshaft which is adapted to secure a tank in place relative to the frame or release such a tank. The tank mechanism includes a first clamping arm and a second clamping arm movable together away from the tank or toward the tank positioned therebetween. Also a first and second guide boss are included which are both fixedly secured with respect to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the first driveshaft. Each guide boss defines a profiled guide surface at least partially encircling the adjacent driveshaft and positioned

thereadjacent to prevent any lateral deflection thereof. An interengagement mechanism is also included operatively secured for powering movement of the tank clamping device between the closed position securing a tank and the opened position to facilitate release thereof. This construction is not shown or suggested in the above-identified reference patent and for this reason the present invention is deemed to be patentably distinguishable thereover.

Publication EO0334265 A1 discloses a "Tank container" published September 27, 11989 to H. Gerhard. This publication discloses a tank container usable for smaller tank volumes including two triangular end frameworks each including two equal-length legs and a bottom transverse beam. The tank can be joined to the framework structures directly via end mounting structures in such a manner that the framework base structure is no longer needed. The apex of each end framework structure is provided with a fitting for engagement of hoisting equipment. With this construction a lightweight framework is achievable. A quick release mechanical bracket is disclosed in the present invention which is a distinct improvement over the prior art devices and, in particular, a distinct improvement over the above described patent. The configuration for the bracket of the present invention includes a frame with an upper flange extending outwardly therefrom and a lower flange extending outwardly therefrom at a position spatially disposed below the upper flange for the purpose of defining a tank holding zone therebetween. A

first driveshaft means is rotatably mounted relative to the flange and a second driveshaft means is spaced laterally from the first driveshaft means and extends generally parallel perpendicularly with respect thereto both of which are rotatably mounted within the upper and lower flanges. A tank clamping device is secured to the first driveshaft and the second driveshaft and is movable therewith between a closed position retaining a tank in the tank holding zone and an opened position releasing the tank to allow removal thereof from the tank holding zone. Each of the tank clamping devices include a first clamping arm secured to the first driveshaft and a second clamping arm secured to the second driveshaft both being rotatably movable between the closed position for retaining the tank in place and an open position for releasing of the tank. A first guide boss is included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween and adjacent to the first driveshaft. This first guide boss includes a first profiled guide surface at least partially encircling the first driveshaft and positioned thereadjacent to prevent lateral deflection thereof. Similarly a second guide boss device is included fixedly secured to the frame below the upper flange and above the lower frame at a position intermediate therebetween adjacent the second driveshaft. This second guide boss defines a second profiled guide surface at least partially encircling the second driveshaft and positioned thereadjacent to prevent lateral deflection thereof. An



interengagement means is also included operatively connected to the first and second driveshafts for urging simultaneous rotation thereof between the closed position holding the tank and the opened position allowing release of the tank from the tank holding zone. The above patent does not teach or in any other way illustrate the novel aspects of the present invention for minimizing deflection of rotatable and vertically extending members in a tank holding bracket configuration and, as such, the present invention as claimed is deemed to be patentably distinguishable over therefrom.

Publication EP0629391 B1 discloses an "Oxygen tank holder for use with wheelchairs" granted August 27, 1997 to M. M. Locarno. This publication includes a device including a pouch with an open top and a closed bottom for holding of the oxygen tank and a first strap secured to the pouch near the open top and extending away. A second strap is included secured to the pouch and a first loop is secured to the pouch near the bottom end thereof and extending away. A second loop is secured to the pouch near the closed bottom thereof and extending in the direction of the second strap. The first strap is disposed around a pair of wheelchair handle supports near the top. The second strap is disposed around the other pair of wheelchair handle supports near the top. The first loop is looped around one of the pair of bottom wheelchair frame members. The second loop is looped around the other of the pair of bottom wheelchair frame members. In this manner the first and second straps and

the first and second loops are cooperatively arranged on the respective first and second wheelchair handle support members. Thus the first and second bottom wheelchair frame members support the pouch on the back of the wheelchair such that the open top of the pouch is in alignment with the closed bottom thereof. This patent does indeed contain a disclosure relevant and specifically pertinent to the present invention. However, the present invention provides an improved construction for a quick release mechanical bracket not shown in any manner in the above patent reference. The bracket of the present invention includes a frame extending vertically with an upper flange extending outwardly therefrom and a lower flange extending outwardly therefrom at a position spatially disposed below the upper flange in such a manner as to define a tank holding zone therebetween. The mechanical bracket further includes a first driveshaft rotatably mounted within the upper flange and rotatably mounted within the lower flange and extending therebetween. Also included is a second driveshaft rotatably mounted within the upper flange at a position laterally spatially disposed from the first driveshaft. This second driveshaft is rotatably mounted within the lower flange at a position spatially disposed laterally from the first driveshaft. The second driveshaft extends vertically between the upper flange and the lower flange at a position laterally displaced from the first driveshaft. The second driveshaft and the first driveshaft extend vertically approximately parallel with respect to one another to define a tank holding zone

therebetween below the upper flange and above the lower flange. A tank clamping device is included movable between a closed position for holding the tank and an open position for releasing of the tank. At least one of said tank clamping devices is included within each bracket construction but as many as two, three or even more such clamping mechanisms can be included. Each of these clamping mechanisms however will include a first clamping arm secured to the first driveshaft to be rotatably movable therewith between the closed position in abutment with the tank and an open position. A second clamping arm will be similarly included. They both will be capable of retaining the tank in the holding zone by moving together and by releasing of the tank from the holding zone by being moved to the opened position together. A first guide boss is also included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the first driveshaft. This first guide boss defines a first profiled guide surface at least partially encircling the first driveshaft and positioned thereadjacent to prevent lateral deflection thereof. With a similar construction a second guide boss is included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the second driveshaft. This second guide boss will define a second profile guide surface at least partially encircling the second driveshaft and positioned thereadjacent to prevent lateral deflection thereof. An interengagement means is further included

operatively attached with respect to the first and second driveshafts for urging rotatable movement thereof simultaneously. This interengagement means is operative to rotate the first driveshaft means counterclockwise and the second driveshaft means clockwise simultaneously to move the first clamping arm means and the second clamping arm means toward the closed position for retaining of a tank within the tank holding zone. The interengagement device is operative to rotate the first driveshaft clockwise and the second driveshaft counterclockwise simultaneously to move the first clamping arm means and the second clamping arm means toward the opened position for releasing of the tank from within the tank holding zone. In view of the distinctive improvements set forth in the claims of the present invention over the prior art and, in particular, in relation to the above-identified patent, the present invention as claimed is not deemed to be anticipated nor rendered obvious by the specification and/or claims of the above described reference.

Publication EP0903162 A2 discloses a "Backframe for self contained breathing apparatus" published February 23, 2000 to D. R. Lewis et al. This publication discloses a backframe for a self contained breathing apparatus which contains an air tank and control components for controlling the flow of air from the air tank. The backframe includes a shell with a rear wall adapted to receive the air tank thereagainst. Side walls are included which are fixed to the rear wall and extend forwardly of the rear wall. A closure plate is included receivable by the

side walls for enclosing the shell and providing a water and contamination-resistant enclosure. The control components of the self contained breathing apparatus are contained within the predefined enclosure. This reference patent is distinguishable from the present invention as claimed since the present claims define an improved quick release mechanical bracket for detachably securing a tank thereto including a frame with upper and lower flanges as well as two driveshaft means rotatably mounted within the upper and lower flanges rotatably and extending generally parallel on opposite sides of the tank gripping area. At least one tank clamping means is included secured to the first and second driveshaft which is adapted to secure a tank in place relative to the frame or release such a tank. The tank mechanism includes a first clamping arm and a second clamping arm movable together away from the tank or toward the tank positioned therebetween. Also a first and second guide boss are included which are both fixedly secured with respect to the frame below the upper flange and above the lower flange at a position intermediate therebetween adjacent the first driveshaft. Each guide boss defines a profiled guide surface at least partially encircling the adjacent driveshaft and positioned thereadjacent to prevent any lateral deflection thereof. An interengagement mechanism is also included operatively secured for powering movement of the tank clamping device between the closed position securing a tank and the opened position to facilitate release thereof. This construction is not shown or

suggested in the above-identified reference patent and for this reason the present invention is deemed to be patentably distinguishable thereover.

Publication JP11105704 A discloses an "Air Tank Fixing Structure Of Vehicle" published April 20, 1999 to A. Shigeyoshi. This publication discloses an air tank fixing structure for a vehicle including a lateral frame supported detachably between a pair of chassis frames and parallel lateral to each other. One end of the multiple vertical frames is in parallel with the chassis frame and is fixed to the lateral frame. The other end is mounted detachably to the cross member of the chassis. A quick release mechanical bracket is disclosed in the present invention which is a distinct improvement over the prior art devices and, in particular, a distinct improvement over the above described patent. The configuration for the bracket of the present invention includes a frame with an upper flange extending outwardly therefrom and a lower flange extending outwardly therefrom at a position spatially disposed below the upper flange for the purpose of defining a tank holding zone therebetween. A first driveshaft means is rotatably mounted relative to the flange and a second driveshaft means is spaced laterally from the first driveshaft means and extends generally parallel perpendicularly with respect thereto both of which are rotatably mounted within the upper and lower flanges. A tank clamping device is secured to the first driveshaft and the second driveshaft and is movable therewith between a closed position

retaining a tank in the tank holding zone and an opened position releasing the tank to allow removal thereof from the tank holding zone. Each of the tank clamping devices include a first clamping arm secured to the first driveshaft and a second clamping arm secured to the second driveshaft both being rotatably movable between the closed position for retaining the tank in place and an open position for releasing of the tank. A first guide boss is included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween and adjacent to the first driveshaft. This first guide boss includes a first profiled guide surface at least partially encircling the first driveshaft and positioned thereadjacent to prevent lateral deflection thereof. Similarly a second guide boss device is included fixedly secured to the frame below the upper flange and above the lower frame at a position intermediate therebetween adjacent the second driveshaft. This second guide boss defines a second profiled guide surface at least partially encircling the second driveshaft and positioned thereadjacent to prevent lateral deflection thereof. An interengagement means is also included operatively connected to the first and second driveshafts for urging simultaneous rotation thereof between the closed position holding the tank and the opened position allowing release of the tank from the tank holding zone. The above patent does not teach or in any other way illustrate the novel aspects of the present invention for minimizing deflection of rotatable and vertically extending

members in a tank holding bracket configuration and, as such, the present invention as claimed is deemed to be patentably distinguishable over therefrom.

Publication JP11314583 A discloses a "Battery And Air Tank Mounting Structure Of Vehicle" published November 16, 1999 to S. Kazuaki. This publication discloses a battery and air tank mounting structure for a vehicle including a battery support stand formed of a pair of front and rear brackets which are fixed to a chassis frame and a side wall at their base parts while being projected outwardly in the car width direction. A floor board is fixed to the lower end flange of each bracket at its front and rear side peripheries. This reference patent is distinguishable from the present invention as claimed since the present claims define an improved quick release mechanical bracket for detachably securing a tank thereto including a frame with upper and lower flanges as well as two driveshaft means rotatably mounted within the upper and lower flanges rotatably and extending generally parallel on opposite sides of the tank gripping area. At least one tank clamping means is included secured to the first and second driveshaft which is adapted to secure a tank in place relative to the frame or release such a tank. The tank mechanism includes a first clamping arm and a second clamping arm movable together away from the tank or toward the tank positioned therebetween. Also a first and second guide boss are included which are both fixedly secured with respect to the frame below the upper flange and above the lower flange at a



position intermediate therebetween adjacent the first driveshaft. Each guide boss defines a profiled guide surface at least partially encircling the adjacent driveshaft and positioned thereadjacent to prevent any lateral deflection thereof. An interengagement mechanism is also included operatively secured for powering movement of the tank clamping device between the closed position securing a tank and the opened position to facilitate release thereof. This construction is not shown or suggested in the above-identified reference patent and for this reason the present invention is deemed to be patentably distinguishable thereover.

Publication JP22001158344 A discloses a "Vehicle Air Tank Mounting Device" published June 12, 2001 to M. Koutarou et al. This publication discloses a vehicle air tank mounting device including a first plate part making contact with the inner surface of a rib of a side member of U-shaped cross section. Also included is a second plate and a third plate and a fourth plate. A first arcuate part is included as well as a fifth plate. A sixth plate is formed in contact with the inner surface of the rib. A seventh plate is formed at approximately right angles to the direction of the center of the vehicle. A second arcuate plate is included and an eighth plate bent with an obtuse angle to the direction of the center of the vehicle. A bolt hole is included and first and second bolt holes are further included with a slit formed in the joint between the second and third plates. The plate parts and the arcuate parts are formed

continuously with one another by use of a flat plate strip. A quick release mechanical bracket is disclosed in the present invention which is a distinct improvement over the prior art devices and, in particular, a distinct improvement over the above described patent. The configuration for the bracket of the present invention includes a frame with an upper flange extending outwardly therefrom and a lower flange extending outwardly therefrom at a position spatially disposed below the upper flange for the purpose of defining a tank holding zone therebetween. A first driveshaft means is rotatably mounted relative to the flange and a second driveshaft means is spaced laterally from the first driveshaft means and extends generally parallel perpendicularly with respect thereto both of which are rotatably mounted within the upper and lower flanges. A tank clamping device is secured to the first driveshaft and the second driveshaft and is movable therewith between a closed position retaining a tank in the tank holding zone and an opened position releasing the tank to allow removal thereof from the tank holding zone. Each of the tank clamping devices include a first clamping arm secured to the first driveshaft and a second clamping arm secured to the second driveshaft both being rotatably movable between the closed position for retaining the tank in place and an open position for releasing of the tank. A first guide boss is included fixedly secured to the frame below the upper flange and above the lower flange at a position intermediate therebetween and adjacent to the first driveshaft. This first

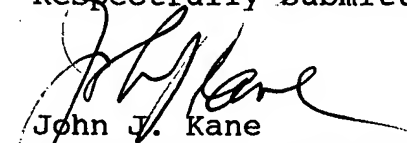
guide boss includes a first profiled guide surface at least partially encircling the first driveshaft and positioned thereadjacent to prevent lateral deflection thereof. Similarly a second guide boss device is included fixedly secured to the frame below the upper flange and above the lower frame at a position intermediate therebetween adjacent the second driveshaft. This second guide boss defines a second profiled guide surface at least partially encircling the second driveshaft and positioned thereadjacent to prevent lateral deflection thereof. An interengagement means is also included operatively connected to the first and second driveshafts for urging simultaneous rotation thereof between the closed position holding the tank and the opened position allowing release of the tank from the tank holding zone. The above patent does not teach or in any other way illustrate the novel aspects of the present invention for minimizing deflection of rotatable and vertically extending members in a tank holding bracket configuration and, as such, the present invention as claimed is deemed to be patentably distinguishable over therefrom.

Applicants attach to this Information Disclosure Statement copies of all prior art references which are not United States patents.

The above art constitutes the closest art of which applicants are aware and, in view of the arguments submitted

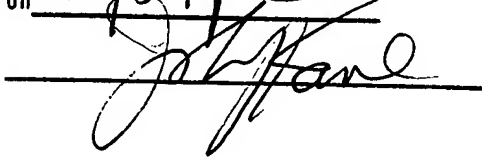
hereabove, applicant deem that the present application is in condition for allowance and such action is hereby respectfully solicited.

Respectfully submitted,

  
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Attorney for Applicants  
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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Section 2. Form PTO - 1449 (Modified)

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE  
(Modified) PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

(Use several sheets if necessary)

(37 CFR 1.98(b))

ATTY. DOCKET NO.

ZIA-188

SERIAL NO.

10/669,201

APPLICANT

MICHAEL P. ZIAYLEK ET AL

FILING DATE

9-24-03

GROUP

3632

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	PATENT NUMBER	ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE if appropriate
	2109821	3-138	DUNICA			
	2431698	12-247	LOMBARD			
	3194529	7-1365	BROCK			
	3547391	12-15-70	JOHNSON			
	3603550	9-7-71	BYRD			
	3737133	6-5-73	BOECKER			
	3765635	10-16-73	BURRELL ET AL			
	3780972	12-25-73	BRODERSEN			
	3823907	7-16-74	ZIAYLEK, JR.			
	3921950	11-25-75	SENTINELLA			
	D244392	5-17-77	MONTAMBO			

FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

DOCUMENT NUMBER	PUBLICATION DATE	COUNTRY OR PATENT OFFICE	CLASS	SUBCLASS	TRANSLATION YES NO
EP 0272494	10-26-88	GERMANY			
EP 0284884	12-14-88	GERMANY			
EP 0312285	4-19-89	GERMANY			
EP 0334265	9-27-89	GERMANY			
EP 0629391	12-21-94	GERMANY			

OTHER DOCUMENTS (Including Author, Title, Date\*\*, Relevant Pages, Place of Publication\*\*\*)


EXAMINER

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\* copies of these non-US patent references are enclosed herewith

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Section 2. Form PTO - 1449 (Modified)

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21A-188

SERIAL NO.

10/669,201

APPLICANT

MICHAEL P. ZIAYLEK ET AL

FILING DATE

9-24-03

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3632

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	PATENT NUMBER	ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	4 0 2 3 7 6 1	5-17-77	MOLIS			
	D 2 4 5 9 2 9	9-27-77	MONTAMBO			
	4 2 1 3 5 9 2	7-22-80	HUGENFELSER			
	4 3 0 4 3 8 3	12-8-81	HUSTON			
	D 2 6 7 2 2 7	12-14-82	ZIAYLEK, JR.			
	4 5 5 5 0 8 3	11-26-85	CARTER			
	4 5 8 6 6 8 7	5-6-86	ZIAYLEK, JR.			
	4 8 2 1 9 9 0	4-18-89	PORTER ET AL			
	4 9 7 9 6 5 9	12-25-90	BOND			
	5 0 2 5 9 3 5	6-25-91	HADACHEK			
	5 3 1 8 2 6 6	6-7-94	LIV			

FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

DOCUMENT NUMBER	PUBLICATION DATE	COUNTRY OR PATENT OFFICE	CLASS	SUBCLASS	TRANSLATION YES NO
EP 0 9 0 3 1 6 2	2-23-00				
JP 1 1 1 0 5 7 0 4	4-20-99	JAPAN			
JP 1 1 3 1 4 5 8 3	11-16-99	JAPAN			
JP 2 0 0 1 1 5 8 3 4 4	6-12-01	JAPAN			

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U.S. PATENT DOCUMENTS

EXAMINER INITIAL	PATENT NUMBER	ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	D 347735	6-14-94	ZIAYLEK, JR. ET AL			
	5522530	6-4-96	BOETTCHER			
	5533701	7-9-96	TRANK			
	5354029	10-11-94	ZIAYLEK JR. ET AL			
	D 394381	5-19-98	ZIAYLEK JR. ET AL			
	6124796	9-26-00	HINCHER			
	6220557	4-24-01	ZIAYLEK ET AL			
	6318568	11-20-01	MCCORD			
	6520123	2-18-03	PARKER ET AL			
	6543736	4-8-03	FIELD			

FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

		DOCUMENT NUMBER						PUBLICATION DATE	COUNTRY OR PATENT OFFICE	CLASS	SUBCLASS	TRANSLATION	
												YES	NO

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